

**IN THE CIRCUIT COURT OF COOK COUNTY, ILLINOIS
COUNTY DEPARTMENT, LAW DIVISION**

FILED
7/24/2020 8:23 AM
DOROTHY BROWN
CIRCUIT CLERK
COOK COUNTY, IL
2020L007821

9872882

Plaintiffs,

No. 2020L007821

v.

THE BOEING COMPANY,

Defendant.

JURY TRIAL DEMANDED

Plaintiffs KIEREN WRAGGE and DAVID BEARD by and through their attorneys, PMJ PLLC and IALPG PTY LTD, file this Complaint against the above-named Defendant THE BOEING COMPANY¹ and state as follows:

1. Kieren WRAGGE (the “First Plaintiff”) is a citizen of Australia, domiciled in Brisbane, Australia.

2. David BEARD (the “Second Plaintiff”) is a citizen of Australia, domiciled in Brisbane, Australia.

3. The Boeing Company (“BOEING”) is a Delaware corporation with its principal place of business and corporate headquarters in Chicago, Illinois.

4. This Court has personal jurisdiction over BOEING because BOEING's principal place of business is located in this state for the purpose of designing, promoting, marketing, and

¹ Similar complaints were filed in the Circuit Court of Cook County, Illinois on behalf of cabin crew, i.e., flight attendants. See *Curry v. The Boeing Company*, Case No. 2020-L-000695 and *Milton v. The Boeing Company*, Case No. 2020-L-001093. Both cases were removed to federal court on Boeing's request, and motions to remand both cases to state court are currently pending.

selling airplanes and the misconduct of Defendant that forms the basis of this complaint occurred in Chicago or was directed from Chicago.

GENERAL ALLEGATIONS

5. At all times relevant to this Complaint, BOEING was engaged in the business of designing, manufacturing, assembling, testing, servicing, marketing, promoting, leasing and selling commercial aircraft as well as providing information and warnings about such aircraft, including the aircraft at issue.

6. The cabin air on BOEING's commercial aircraft – with the exception of the BOEING 787 Dreamliner² – can become contaminated with toxins and cause acute and chronic injuries to flight crew and passengers.

7. BOEING airplanes developed prior to the Boeing 787 Dreamliner use a “bleed air” system where outside air is pulled into the aircraft's engines and then once it leaves the engines this “bleed air” is passed through the air-conditioning pack, where it is cooled and combined with recirculated cabin air before it enters the cabin (the “Bleed Air System”). The air often becomes contaminated by heated jet engine oil, hydraulic fluid and other contaminants or the toxic by-products of such chemicals.

8. Air contamination may occur due to a primary event (an immediate and identified failure or leak that occurs contemporaneous with the contaminated air event) and/or a secondary event (where jet engine oil, hydraulic fluid, contaminants or the heated and pyrolyzed by-products of such, leaks, weeps, wisps, seeps or burps out of an engine over time, becomes lodged in the Bleed Air System and causes delayed cabin air contamination) or a combination of both.

² As set forth more fully herein, BOEING, having recognized its design flaws inherent in previous aircraft, including the Boeing 737 NG, which aircraft type is the subject of this Complaint, corrected its design flaws when it designed the Dreamliner.

9. Contaminated cabin air is a toxic soup of chemicals including, but not limited to, neurotoxins such as organophosphates. Organophosphates are chemical compounds also found in insecticides, herbicides, pesticides, nerve agents, and nerve gases such as Sarin gas.

10. Inhaling contaminated cabin air can cause short-term or transient symptoms as well as permanent and serious personal injury.

11. Contaminated air events can also cause serious and potentially catastrophic safety issues. BOEING is aware of incidents where flight crew have become ill or incapacitated because of contaminated air events in-flight. During a contaminated air event, flight crews can – without warning – be subjected to poisonous cabin air that can substantially reduce their capabilities or temporarily disable them. Such events constitute a serious threat to flight safety.

12. BOEING has known about – and has refused to address – this threat to human life for years. At least as early as 2007, BOEING’s senior engineers were frustrated with BOEING’s refusal to address this known safety issue.

13. In 2012 this issue led to the death of a British Airways pilot, Richard Westgate. Post-mortem testing of Mr. Westgate’s blood and tissue showed elevated autoantibody markers, indicative of neural degeneration. Published medical articles about Mr. Westgate’s death concluded that he suffered a nervous system injury consistent with organophosphate-induced neurotoxicity. Duke University Professor Abou-Donia, a researcher dedicated to better understanding contaminated air injuries, noted that Westgate’s injury was “one of the worst cases of organophosphate poisoning [he had] come across.”

14. Despite Mr. Westgate’s death, BOEING still refuses to take remedial action to fix its flawed and defective Bleed Air System. BOEING has failed to research, develop, design, install, implement or provide sensors or alarms to notify the flight crew about contaminated air events so

immediate action can be taken to reduce or minimize exposure. BOEING has also failed to research, develop, design, implement, retrofit or install an air converter or filter into the Bleed Air System to remove, reduce or mitigate the toxins in contaminated air events. BOEING has also knowingly and intentionally failed to provide adequate warnings or training about the dangers of these events.

CONNECTION BETWEEN PILOTS AND BOEING

15. Pilots are, by necessity and by law, central to the design and operation of civil air transport category aircraft, and preserving their working environment from contaminants is a federally mandated requirement for aircraft manufacturers in the United States like BOEING.

16. For example, several Federal Aviation Regulations provide that it is mandatory for aircraft manufacturers to design systems and install equipment, such that “qualified flightcrew members trained in their use can safely perform all of the tasks associated with the systems' and equipment's intended functions.” 14 CFR §25.1302. As integral safeguards for the operation of commercial aircraft, pilot safety is clearly within BOEING’s remit for aircraft design.

17. Federal Aviation Regulations impose requirements on BOEING related to the air quality in civil aircraft in relation to both the cockpit and cabin. 14 CFR § 25.831(b) – Ventilation, provides that the “Crew and passenger compartment air must be free from harmful or hazardous concentrations of gases or vapors” and § 25.831(c) mandates “There must be provisions made to ensure that the conditions described in para (b) of this section are met after reasonably probable failure or malfunctioning of the ventilating, heating, pressurization or other systems and equipment.”

18. By failing to adhere to such responsibilities and duties BOEING has put profits above the safety of passengers and flight crews.

CONTAMINATED AIR EVENT 1 – Flight: VA1102

19. Flight VA1102 was a scheduled Brisbane to Newcastle flight to be undertaken on an older aircraft in the Virgin Australia fleet (a 2003 manufactured BOEING 737-800 NG registration “VH-VOL”) on July 28, 2018. Flight VA1102 was to be the first flight of the aircraft on that day. The Second Plaintiff was the Captain of the flight and the First Plaintiff was the First Officer and comprised the entire flight crew for the short flight.

20. After starting Engine 2, the Plaintiffs experienced exhaust fumes in the cockpit even though the gasper vents were closed. Based on the Plaintiffs’ experience, the fumes were stronger than those typical of a “cold engine” start, *i.e.*, the ignition of an engine that had been dormant for several hours.

21. Second Plaintiff had only transitioned back to flying the Boeing 800 at or around May 21, 2018. The flight of July 28, 2018 occurred only two months since a previous significant break away from the NG. Accordingly, Second Plaintiff was not initially alarmed by the smell of the toxic fumes.

22. The smell was an oil, exhaust smell, which was intense and discernible with the intensity that comes through into the air but tended to clear quickly. The fumes were in the flight deck and perceptible for about two minutes.

23. After starter cut out on Engine 2, Plaintiffs isolated the right pack³ and opened the gasper vents. The Plaintiffs then proceeded to start engine 1 and the fumes began to dissipate.

³ This is a procedure where flight crews close the isolation valve to direct air and turn on the right air conditioning pack which provides airflow and thus improves the cabin air quality. This is done by reference to a BOEING “Supplementary Procedure” named “Isolated Pack Operation during Engine Start” set forth at pp. 57-58 of the Boeing 737-700/800 Flight Crew Operations Manual that is distributed with every Boeing 737NG and continually updated. A copy is available at: <http://navfly.ru/wp-content/uploads/2017/10/FCOM-003-all-online.pdf>

24. The Plaintiffs briefly discussed the smell and decided they should continue on with the flight as they felt they could safely fly the airplane. After Plaintiffs departed from the airport, the flight was a seemingly normal flight to Newcastle.

CONTAMINATED AIR EVENT 2: JULY 28, 2018

25. Plaintiffs conducted the engine start in Newcastle for the same day return flight to Brisbane denoted as flight VA1103 with the same aircraft (registration “VH-VOL”). The start to Engine 2 (right hand engine) gave Plaintiffs another burst of fumes.

26. Plaintiffs again carried out BOEING’s “Isolated Pack Operation during Engine Start” procedure to attempt to improve air quality by maximizing the airflow by turning the pack to “HIGH.” The contaminated air, however, did not clear the air as quickly as on the first flight from Brisbane to Newcastle.

27. Both Plaintiffs noticed a strong smell of oil and exhaust, as well as the strong smell of food cooking in the forward galley. The meal cooking smell, however, did not occur on the first flight.⁴

28. First plaintiff retrieved the Quick Reference Handbook (“QRH” – which directs crew in dealing with non-normal situations) and Second Plaintiff asked First Plaintiff to read through the “Smoke, Fire or Fumes” Checklist to see if there was any relevant information to their situation. The QRH Checklist did not contain helpful information for this contaminated air situation.

29. First Plaintiff started coughing and told Second Plaintiff that he was experiencing a burning sensation in his throat, which was causing him significant discomfort.

⁴ Small amounts of food spillage in the oven burn off whilst meals are cooking which create a strong smell in the flight deck.

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30. The Plaintiffs opened up the gasper vents in front of them to maximize fresh air in the flight deck. While the smell was familiar, the intensity of the smell was significantly more (and thicker) than previously.

31. At this time, the Second Plaintiff experienced a raised heart rate and lightheadedness. As the airflow was at maximum, the Plaintiffs had no choice but to wait to see if the air quality would improve. The toxins dissipated after approximately four-to-seven minutes, prior to starting Engine 1 (the left side engine).

32. While the fumes were in the cockpit, the First Plaintiff tried to hold his breath, but when he did finally inhale he felt a burning, tingling sensation in his throat, lungs and abdomen which made him cough. First Plaintiff told the Second Plaintiff that he was feeling nauseated. Second Plaintiff suggested they stop and talk about how they were both feeling to decide whether to continue with the flight.

33. The Plaintiffs assessed whether they were able to proceed with the flight or if the engines needed to be shut down to stay on the ground.

34. Possibly already suffering from reduced mental capacity due to the toxins, the Plaintiffs decided that they were feeling well enough to continue the flight. While First Plaintiff was still feeling the effects of the fumes, he told Second Plaintiff that he was okay to continue.

35. At the time Second Plaintiff felt confident that he could function safely and was well enough to fly, but First Plaintiff noticed that the color in his face was gone and Second Plaintiff did not realize that he appeared ill.

36. After takeoff, First Plaintiff started feeling lightheaded, dazed, and physically ill. Second Plaintiff seemed to have similar symptoms and was pale. Second Plaintiff suggested that if First Plaintiff felt sick he should put on the oxygen mask, and First Plaintiff advised him that he

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felt like he was going to vomit in the oxygen mask so he did not put it on. However, First Plaintiff located a vomit bag in the cockpit.

37. This paling complexion of Second Plaintiff became more noticeable throughout the flight. First Plaintiff, brought this to Second Plaintiff's attention later in the flight and said that he was looking "white as a ghost."

38. Unbeknownst to them at the time, the Plaintiffs both likely were suffering from hypoxia through much of the flight.

39. As they made their way to Brisbane, Second Plaintiff again noticed First Plaintiff looked quite pale.

40. First Plaintiff has no memory of the flight from there onwards, and he has no memory of the descent and landing into Brisbane Airport. After the flight, to make a safety report, First Plaintiff actually had to look up the flight on www.flightradar24.com to see which runway they had used to land.

41. Second Plaintiff noticed that during the flight, First Plaintiff was not as sharp as he normally is and was affected by the exposure of the fumes. The flight was one hour long and Plaintiffs were quite engaged with their duties during the short flight. However, both pilots checked in on one another during the flight, taking into account their possibly impaired faculties, to make sure they were able to continue their duties safely.

42. Immediate symptoms apparent to First Plaintiff after the conclusion of Flight VA1103 included a burning sensation in his eyes, sore throat, accelerated heart rate, tightness in the chest, uncontrollable shaking, and the taste of a residue in his mouth that made his mouth feel dry even after drinking multiple bottles of water in quick succession. He also felt an overwhelming

fatigue, very vague, and confused. His eyes were glazed and his skin had a yellow/grey color. He attempted washing his eyes with water to no avail.

43. After the flight, Second Plaintiff recalls feeling nauseated and lightheaded while making his safety report and made basic spelling and grammatical errors that he would normally not make. He felt this way for a couple of hours after the flight. Both Plaintiffs called airline doctors after the flight but received minimal assistance and advice.

44. Due to his exposure to contaminated cabin air on the BOEING aircraft, First Plaintiff suffered short-term and long-term health effects including nausea, confusion, pain, migraines, sensitivity to odors such as car fumes, perfumes, aerosols and cleaning products, dizziness, irregular heart rate, palpitations, fatigue and exhaustion, lung damage/scarring similar to an injury like silicosis, coughing bringing up phlegm, blood brought up with cough, chest pain, balance problems, decreased motor skills, neuropathy, as well as numbness and tingling in extremities, joint and muscle pain, tremors, dizziness, vertigo, shortness of breath, problems sleeping, headaches, memory loss, feeling of intoxication to the point of vomiting, blurred vision, trouble concentrating, cognitive defects, emotional distress, mental anguish, depression, and anxiety, many of which still plague him to date some two years after the event.

45. First Plaintiff's life has been completely derailed. He has been unable to return to work or care for his wife and two young children. First Plaintiff's wife struggled to look after the couple's children without his help, while working full-time to support the family, and assisting First Plaintiff with his recovery.

46. Due to his exposure to contaminated cabin air, Second Plaintiff suffered short-term and long-term health effects including nausea, confusion, accelerated heart rate, jittery feeling,

fatigue and exhaustion, and cognitive deficits, most symptoms of which resolved within a few months after the contaminated air events.

47. As a result of these events, Plaintiffs have suffered loss of wages and wage earning capacity in the past and in the future.

BOEING WILLFULLY IGNORED CERTAIN HARM TO HUMAN LIFE

48. BOEING employs more than 165,000 people across the United States and in more than 65 countries and promotes itself as the leading manufacturer of commercial jetliners. It claims a long tradition of aviation leadership and innovation. BOEING, which also manufactured the fatally flawed 737 MAX, continues to publicly represent that “safety is its primary consideration.” <https://www.boeing.com/company/about-bca/aviation-safety.page>

49. For more than sixty years, BOEING has been on notice that, on more than a hundred occasions, its Bleed Air System is unreasonably dangerous and can cause serious acute and permanent injuries to flight crew and passengers.

50. BOEING has known since the 1950’s that cabin air contamination does not affect everyone to the same degree and some people are physiologically more susceptible to even trace amounts of contaminants.

51. BOEING is also aware that because of the increased breathing and metabolic rate, as well as increased activity of the flight crew, they are more susceptible to injury from contaminated air events.

52. Toxic cabin air events occur on every type and model of BOEING’s airplanes that employ a Bleed Air System of cabin ventilation.

53. Contaminated air events occur every day. BOEING tracked over 1,100 toxic air events from 1999 to 2013. BOEING assessed 823 of those events as being “potential safety issues.”

BOEING's manager of its Air Quality Team, David Space, acknowledges that it is reasonable to expect 4.4 contaminated cabin air events (tracked back to oil or hydraulic fluid) each and every day in the United States of America – let alone all over the world where BOEING aircraft operate.

54. The adverse health effects of contaminated air events are well-documented and serious. The Federal Aviation Administration (the "FAA") Office of Aerospace Medicine expert, George Day, describes contaminated air events as when "a potentially toxic environment is created by contaminated bleed air," and the FAA recognizes that exposure to contaminated air events can "result in a spectrum of adverse health effects."

55. The organophosphate chemicals found in BOEING's jet engine compartments are highly neurotoxic, akin to Sarin gas – which has been used by certain despot regimes in military conflicts to kill people. The World Health Organization ("WHO") calls the neurotoxins at issue "major hazards to human health" for which "there is no safe level of ingestion" and cautions that exposure through inhalation should be eliminated.

56. Research confirms that exposure to these irritating and toxic chemicals can cause "impairment of neuropsychological function" which can "become more debilitating after time, with problems of loss of cognitive function and memory problems emerging."

57. Published articles acknowledge that exposure to oil fumes can cause "both acute and chronic neurological and respiratory symptoms" and can compromise flight safety. As one study noted, "a clear cause and effect relationship has been identified" between contaminated air events and the development of acute and chronic adverse effects involving the neurological and neurobehavioral systems.

58. Harvard Professor and BOEING consultant Jack Spengler has confirmed that flight crews “complain of headaches and eye, skin and upper airway irritation in the short term but go on to experience neuropsychological impairment” as well as other chronic conditions.

59. BOEING has previously acknowledged that flight crew, including pilots, and passengers develop “real symptoms” from these events.

60. In 2004, BOEING launched the BOEING 787 Dreamliner (the “Dreamliner”) program, a new commercial aircraft that does not use a Bleed Air System. The Dreamliner air system eliminates the risk of contaminants being introduced into the cabin air supply.

61. One of the reasons BOEING developed a new air supply system for the Dreamliner was to eliminate “engine contaminants potentially entering cabin air supply- Improved Air Quality.”

62. BOEING has knowingly and intentionally failed to investigate, study, identify or quantify the toxins present during a contaminated air event. As a threshold step to appropriately address the safety hazard of contaminated air events, BOEING knew it needed a comprehensive list of possible contaminants present during a cabin air event. To date, BOEING still has not finalized a list of such contaminants or surrogates of interest.

63. BOEING has never captured, documented, evaluated, assessed nor analyzed a contaminated air incident in-flight. Shockingly, even today, BOEING cannot tell the public what toxins are present during a contaminated air event or at what levels. BOEING executive Jacob Bowen admits he has “never seen any data off of an actual airplane” during a contaminated air event. BOEING’s senior engineer George Bates confirms that BOEING has “no data of air contamination during a fume or upset event.”

64. Such data now exists notwithstanding BOEING's willful ignorance of and or failure to acknowledge a known threat to human life.

65. BOEING's typical investigation of a contaminated air event involves examining the airplane hours to days after a fume event, by which time the doors have been opened, the passengers and crew have disembarked, and the contaminated air has dissipated. While BOEING knows it is exposing flight crew and the traveling public to various levels of poisonous gas, BOEING has never adequately studied the levels of contaminants present, the various causes for contamination, or the adverse health effects on passengers and crew.

66. Until the last few years all air samples done captured only normal flight operations. Samples during a variety of fume events using personal sampler devices have been captured indicating the levels and types of neurotoxins and poisonous substances in contaminated air and confirm that the neurotoxin tricresyl phosphate (TCP) is present in significant concentrations together with about 100 other hazardous compounds. TCP is not only known to be a neurotoxin but also an important indicator of the presence of other products of engine oil pyrolysis.

67. The events captured include those with and without perceptible odors, indicating the danger of fume events cannot be gauged by strength of odor alone.

68. Accordingly, even the "normal" flight sample data is alarming with TCP being found on airplanes. Independent researchers confirm that, when cabin air was tested even under normal flying conditions, "significant concentrations of organophosphate neurotoxins and other noxious substances in cabin air" were found. In 2009, when investigative reporters took wipe samples from inside a number of airplanes, all under normal flight operations, "out of 31 samples, 28 were found positive for TCP."

69. Nonetheless, BOEING consistently represented to the Plaintiffs and the public at large that it was committed to studying and gaining “a comprehensive understanding of air quality components through research and analysis.” In reality, BOEING repeatedly cut or removed funding from air quality projects.

70. BOEING intentionally downplayed, minimized and misrepresented the true incidence rate for contaminated air events. BOEING has repeatedly provided inaccurate or outdated incidence statistics to the traveling public and flight crews. Through these misrepresentations, BOEING encouraged complacency, deterred and distracted research efforts, and impeded or prevented development and implementation of safer technologies.

71. BOEING failed to develop, install or implement filters or converters. Feasible and effective filters and converters, which could remove or significantly reduce airborne toxins, have been available since 2003. The most well-tested of these is the Combined Hydrocarbon Ozone Converters (“CHOC”) which BOEING could have, and should have, installed on its bleed airplanes. CHOC converters function similar to a filter except the CHOC captures the toxic contaminants and turns those chemicals into more benign compounds. CHOC converters are effective at reducing contaminants, thus making the Bleed Air System safer for passengers and crew.

72. Adding CHOC converters to BOEING planes would be easy, as the CHOC slides right into the same slot in the Bleed Air System as the existing ozone converter. The CHOC unit actually fits into “the same envelope space as the ozone converter” and is essentially a drop-in replacement for the ozone converter which provides advancement “at little to no extra cost.” The CHOC has the same durable, lightweight design and same long-lasting, high efficiency as the currently utilized ozone converter. As BOEING lead engineer and FAA designated representative

Jane Vitkuske confirmed, the benefits of the CHOC technology include “minimal cost” and little “weight impact.”

73. BOEING’s main competitor, Airbus, started installing CHOC converters on Airbus planes in 2006 to 2007. BOEING has still not adopted or implemented this safer alternative.

74. BOEING consistently and repeatedly refused to allocate adequate resources for the research, development and installation of converters or sensors. Indeed, BOEING repeatedly cut or eliminated budgets for such research and development. On multiple occasions, BOEING put entire air quality projects “on hold” or delayed approving adequate funding by months and even years.

75. BOEING has reported that it intends to install CHOC converters on some of its bleed airplanes starting in the 2021 timeframe: a decision that comes too late to save the Plaintiffs.

76. BOEING failed to design, install or implement sensors. BOEING’s airplanes have more than fifty sensors onboard, and many of them trigger warnings for the pilots in-flight. Yet BOEING has never installed a sensor to warn of a contaminated air event. BOEING’s management refused to fund the research and development efforts necessary to develop and implement such technology.

77. A pilot’s ability to immediately detect a contaminated air event in-flight with or without odors is important because, in the cockpit, there is a switch that allows the pilot to shut off inflowing air from either engine. For example, if the pilot knows contaminants are entering the air supply because of issues from the right engine, with a flip of a switch, the pilot can shut down the air flow on that side of the plane and protect passengers and crew from the toxins if the contamination is detected fast enough.

78. The process of detection of harmful air contaminants should not rely solely on the flight crew's olfactory system.

79. As a matter of practice and law, pilots need sensors to alert them to contaminated air events. These events are safety issues, as pilots are ultimately responsible for the safe operation of the aircraft and its passengers.

80. Unions have repeatedly asked for the installation of sensors. The FAA wants sensors. Industry organizations have demanded sensors. Independent scholarly organizations like the National Research Council, recommend sensors.

81. Although a number of air quality sensors have been developed and approved for use in flight, BOEING steadfastly refuses to test, develop, utilize, require or install any of them. BOEING's engineers admit that one reason for BOEING reticence is that BOEING fears the information captured by those sensors, *i.e.*, exactly what toxins were actually present during an event and at what levels, could be used against BOEING in litigation. In a misdirected effort to curb lawsuits, BOEING continues to risk the safety of passengers and flight crew.

82. BOEING has long known that its Bleed Air System is defectively designed. BOEING is aware that safety measures exist or could be developed to mitigate or eliminate the danger. BOEING has made affirmative and intentional decisions not to investigate, develop or employ those measures.

83. BOEING has ample resources to investigate, research, develop and implement safer alternatives. Despite such resources, the BOEING aircraft at issue had a defectively designed Bleed Air System, was not equipped with appropriate converters or filters to remove air contaminants and did not have a sensor to warn the flight crew. Further, BOEING provided the

flight crew with no specific training on how to handle a contaminated air incident or how to isolate the source of the air contamination so such contamination could be reduced, avoided or stopped.

84. BOEING knew that cabin air would become contaminated, knew that such contamination would cause health problems, and knew that safer alternatives were available that were technologically available and economically feasible. Yet BOEING did not redesign or retrofit the subject aircraft to eliminate or reduce these hazardous events.

85. Rather than admit the truth about air cabin contamination, BOEING has instead deliberately misrepresented the safety of its aircraft. In 1995, for example, BOEING represented at the Aeromedical Medical Association annual meeting that the ECS or Environmental Control System of “today’s jetliner is carefully engineered to provide superior cabin air quality.”

86. On May 3, 2016, BOEING issued a “Boeing Response to Query” titled “Cabin Air & Bleed Contaminants,” and prepared by BOEING Communications Subject Matter Expert Bret Jensen that stated in relevant part:

Cabin air quality inside Boeing airplanes is safe. Extensive research on cabin air conducted by independent researchers, universities, industry and government agencies has repeatedly demonstrated that contaminant levels are generally low and that health and safety standards are met.

The Boeing Response to Query was intended by Boeing to be read by and was read by pilots and crew, including the Plaintiffs.

87. By 1996, BOEING knew that airlines, had “expressed concern with bleed air contaminants.” Rather than be truthful, BOEING instead reassured its airline customers and pilot operators that the “air quality contaminants meet health and safety guidelines” and acute symptoms were caused by warmer temperatures and control of the heat in the cabin, rather than toxins.

88. BOEING has repeatedly assured flight crew, including employees of Virgin Australia, that injuries from contaminated air events were being mistakenly attributed to cabin air

quality when multiple other causal factors such as altitude, jetlag, turbulence, dehydration, and stress were the cause of their health problems. BOEING had multiple prime opportunities to educate Virgin Australia flight crew about this safety hazard for example through the issue of additions and insertions to its Flight Crew Operating Manuals for the 737-800 NG (“FCOM”) but, instead, BOEING misrepresented, downplayed and minimized the danger. The FCOM is a document prepared by BOEING which it and air safety regulators require pilots to read and which pilots have no alternative but to rely upon.

89. BOEING intentionally, willfully and deliberately made affirmative public representations to flight crews and passengers over time (including in March of 2008, November of 2010, May of 2011, November 2000, November 2012, and May 3, 2016) that were inaccurate, deceptive and false, including that “cabin air is safe to breathe;” “cabin air quality is safe and healthy;” the level of contaminants that enter the cabin during a contaminated air event are “low,” not a danger and “health and safety standards are met.” Such statements have been repeated afresh in 2020 in a new context, that being in pursuit of a goal to convince the traveling public that cabin air will also not carry airborne viruses such as COVID-19. These statements are untrue and misleading.

90. As to the incidence rate for contaminated air events, BOEING has falsely represented that such events were “rare” and provided false statistics alleging that only 167 events or 222 events have occurred over a 10-year period. BOEING’s team manager David Space, however, has admitted that “it would not be unusual to expect 4.4 fume a day tracked back to oil or hydraulic fluid” in the United States alone.

91. BOEING has also represented that it was supportive of research, was helping to develop reliable sensor technology and was always looks for ways to advance the technology on

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its airplanes. In reality, BOEING consistently and repeatedly blocked, reduced or removed requested budget and support from air quality projects.

92. BOEING reassured flight crew that there were “no additional precautions” that could be taken to improve air quality. In reality, BOEING could have, and should have, installed converters and sensors in its Bleed Air System planes.

93. BOEING executives have affirmatively represented to pilots, including the Plaintiffs, that BOEING aircraft are safe.

94. By reason of BOEING’s decisions, the subject flight crew was exposed to toxic air, the environmental control system on the subject aircraft lacked converters or filters which would have reduced or eliminated the toxic fumes, and there was no sensor or warning on the subject aircraft to warn the flight crew so suitable remediation action could be taken.

95. By reason of BOEING’s decisions, the Plaintiffs were not properly warned of the health dangers of contaminated cabin air and were not equipped to respond to the two incidents described herein.

96. BOEING knew of the defects in the subject aircraft, knew that because of such defects the cabin air was not free from harmful or hazardous concentrations of contaminants, was on notice that the defects were likely to cause harmful fume events and injury yet failed to adequately warn or instruct on the aircraft defects, failed to remedy the known defect in the subject aircraft, failed to discover the dangerous conditions when such could have been discovered and/or failed to take affirmative action to avoid injury to Plaintiffs and others.

COUNT I
Strict Liability – Design Defect
(Illinois law)

97. BOEING manufactured, designed, promoted, marketed and sold the subject aircraft. At the time the subject aircraft left BOEING's custody and control, it was defective and unreasonably dangerous because:

- a. its design rendered the aircraft unreasonably dangerous;
- b. the danger of this design was beyond that contemplated by the intended user, *i.e.*, pilots, with ordinary knowledge common to the community as to its characteristics; and
- c. the benefits of this design are outweighed by the design's inherent risk of danger.

98. BOEING's design of the subject aircraft made such aircraft unreasonably dangerous in one of more of the following respects:

- a. the subject aircraft's ventilation system allows bleed air, which can become contaminated with dangerous toxins, to enter the cabin and cockpit air;
- b. the subject aircraft lacked adequate air quality monitors, sensors or alarms;
- c. the subject aircraft provides no safeguards or systems to identify the source of the contaminated air or mitigate or prevent contamination of the cabin air; and
- d. the subject aircraft lacked adequate or appropriate converters or filters to reduce, remove or eliminate bleed air contamination.

99. By reason of the foregoing, the subject aircraft was unreasonably dangerous and defective, and BOEING is strictly liable for the damages sustained by the Plaintiffs.

WHEREFORE, Plaintiffs request judgment against Defendant THE BOEING COMPANY in an amount of money in an amount to be determined by a jury.

COUNT II
Strict Liability – Defective Warnings/Instructions
(Illinois law)

100. Plaintiffs re-allege all previous paragraphs as if set forth verbatim herein.

101. BOEING failed to adequately warn of the danger of toxic cabin air and/or failed to adequately instruct on the proper use of its aircraft to avoid cabin air contamination in one of more of the following respects:

- a. the subject aircraft lacked proper warnings regarding the potential of the air supply system to become contaminated;
- b. the subject aircraft lacked proper warnings regarding the identification or detection of contaminated air;
- c. the subject aircraft lacked proper warnings regarding the health dangers of exposure to contaminated air; and
- d. BOEING failed to adequately warn or instruct on how to respond, contain or reduce the danger of contaminated air event.

102. By reason of the foregoing, the subject aircraft was unreasonably dangerous and defective, and BOEING is strictly liable for the damages sustained by the Plaintiffs.

WHEREFORE, Plaintiffs request judgment against Defendant THE BOEING COMPANY in an amount of money in an amount to be determined by a jury.

COUNT III
Negligence
(Illinois law)

103. Plaintiffs re-allege all previous paragraphs as if set forth verbatim herein.

104. At all times relevant hereto, BOEING owed a duty to the Plaintiffs to use reasonable care in designing, manufacturing, assembling, testing, maintaining, servicing, selling, marketing, promoting and providing warnings or instructions about the subject aircraft so as not to cause Plaintiffs severe personal injuries and pain and suffering.

105. BOEING negligently breached its duty of care owed to the Plaintiffs through one or more of the following negligent acts and omissions, when BOEING:

- a. negligently designed, manufactured, assembled and sold the subject aircraft such that its ventilation system allowed contaminated bleed air to enter the breathing zone of the aircraft;
- b. negligently designed, manufactured, assembled and sold the subject aircraft without an adequate or appropriate air quality monitor, sensor or alarm to detect bleed air contamination, to allow the flight crew to identify the source of such contamination and/or permit the flight crew to mitigate, reduce or prevent fume events;
- c. negligently designed, manufactured, assembled and sold the subject aircraft without adequate or appropriate converters or filters to protect cabin air from contamination;
- d. negligently designed, manufactured, assembled and sold the subject aircraft without proper warnings or instructions regarding the potential of the air supply system to become contaminated or the danger of exposure to such contaminated air;
- e. negligently designed, manufactured, assembled and sold the subject aircraft without knowing the chemical composition of heated aviation jet engine lubricating oil or hydraulic fluid or the byproducts of such as well as the noxiousness of these toxins;
- f. negligently designed, manufactured, assembled and sold the subject aircraft without knowing what chemicals or byproducts are created when aviation jet engine

lubricating oil or hydraulic fluid are pyrolysed consistent with those experienced in the engines;

- g. negligently designed, manufactured, assembled and sold the subject aircraft without properly testing heated aviation jet engine lubricating oil or hydraulic fluid to fully understand the toxic chemicals and byproducts of such;
- h. negligently designed, manufactured, assembled and sold the subject aircraft without knowing the quality of the bleed cabin air;
- i. negligently failed to incorporate a proper and effective environmental control system or air supply on the subject aircraft;
- j. negligently failed to properly test the subject aircraft before selling or distributing it;
- k. negligently failed to adequately maintain, service, retrofit and/or inspect the subject aircraft or add the needed safer alternatives;
- l. negligently represented, promoted and marketed its aircraft as being safe and failed to provide adequate warnings and instructions about its aircraft; and
- m. BOEING was otherwise negligent and careless.

106. BOEING owed a duty to adequately warn and instruct the Plaintiffs about the dangers of its aircraft of which it knew, or, in the exercise of ordinary care, should have known, at the time the product left BOEING's control.

107. BOEING negligently failed to warn the Plaintiffs of the defective and unreasonably dangerous conditions of the subject aircraft.

108. BOEING misrepresented the safety of its aircraft and the dangers of air cabin contamination to the Plaintiffs.

109. As a direct and proximate result of one or more of the aforesaid negligent acts and omissions of BOEING, BOEING caused Plaintiffs to suffer personal injuries and damages.

WHEREFORE, Plaintiffs request judgment against Defendant THE BOEING COMPANY in an amount of money in an amount to be determined by a jury.

COUNT IV
Fraud
(Illinois law)

110. Plaintiffs re-allege all previous paragraphs as if set forth verbatim herein.

111. BOEING, having undertaken to design, create, research, develop, manufacture, market, promote, lease and sell its aircraft, owed a duty to provide a safe and appropriate air system as well as accurate and complete information regarding its aircraft.

112. Instead, BOEING fraudulently provided information and omissions to Plaintiffs, and falsely and deceptively sought to create the image and impression that the air cabin in its aircraft was safe.

113. As described in detail above, BOEING purposefully concealed, failed to disclose, misstated, downplayed, and understated the health hazards and risks associated with cabin air contamination on its aircraft.

114. BOEING deceived the Plaintiffs, and other flight crew and passengers, by concealing, misstating, and downplaying the incidence rate, seriousness and health effects of fume events.

115. BOEING falsely and deceptively concealed relevant and material information from flight crew, flight attendants and passengers and minimized concerns regarding the safety of its aircraft air system.

116. BOEING did not properly investigate nor report accurately the results of its analysis of cabin air contamination.

117. As a direct and proximate result of one or more of the aforesaid fraudulent acts of BOEING, BOEING caused Plaintiffs to suffer severe personal injuries and damages.

WHEREFORE, Plaintiffs request judgment against Defendant THE BOEING COMPANY in an amount of money in an amount to be determined by a jury.

COUNT V
Negligent Misrepresentation
(Illinois law)

118. Plaintiffs re-allege all previous paragraphs as if set forth verbatim herein.

119. As set forth above, BOEING made multiple misrepresentations and omissions regarding safety of the cabin air on the Boeing 737NG without reasonable care as to the truthfulness of those statements.

120. BOEING knew or should have known that pilots and crew, like the Plaintiffs, would rely on those statements and omissions.

121. The Plaintiffs justifiably relied on the misrepresentations and omissions to their detriment.

122. BOEING's conduct caused Plaintiffs short term and long term health problems and injuries including pain, suffering, mental anguish, emotional distress, physical impairment, loss of normal enjoyment of life, medical bills and expenses as well as loss of wage earning capacity, in the past as well as reasonably anticipated in the future.

WHEREFORE, Plaintiffs request judgment against Defendant THE BOEING COMPANY in an amount of money in an amount to be determined by a jury.

DEMAND FOR JURY TRIAL

123. Plaintiffs demand a jury trial on all claims so triable in this action.

WHEREFORE, Plaintiffs respectfully request entry of a judgment in their favour and against Defendant BOEING, together with costs, attorney fees and such other damages as may be allowed by this Court under law.

Dated: July 24, 2020
Chicago, Illinois

Respectfully submitted by:

A handwritten signature in black ink, appearing to read 'P. Jones', with a stylized flourish at the end.

Patrick M. Jones, One of the Attorneys
for Plaintiffs

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